

## Claims

1        1. A method of recovering transmitted symbols in the receiver of a spread spectrum  
2        system, comprising: receiving a signal including multi-path components associated with a  
3        transmitted symbol; de-spreading successive portions of the received signal to provide a  
4        symbol estimate based on each multi-path, wherein at least one multi-path of the  
5        transmitted symbol is contained in separate portions, the de-spreading step further  
6        comprising determining a partial estimate of the transmitted symbol for the at least one  
7        multi-path component based on each part of the multi-path contained in each separate  
8        portion; and summing said partial estimates.

1        2. The method of claim 1 further comprising the step, after de-spreading each portion,  
2        of storing any partial estimates.

1        3. The method of claim 2 further comprising the step, on de-spreading each portion, of  
2        retrieving any stored partial estimate associated with a multi-path in the current portion.

1        4. The method of claim 3 wherein the retrieved partial estimate is used in the summing  
2        step.

1        5. The method of of claim 1 further including the step of sampling the received signal  
2        at successive time intervals thereby generating the successive portions of the received  
3        signal.

1        6. The method of claim 5 further comprising the step of estimating a timing error of  
2        the received signal, wherein the successive portions of the received signal are time  
3        adjusted to compensate for the timing error prior to de-spreading.

1        7. The method of claim 6 wherein the successive portions of the received signal are  
2        stored in a sample memory.

1        8. The method of claim 7 wherein the successive portions of the received signal have a  
2 length of more than one symbol period.

1        9. The method claim 8 wherein the successive portions of the received signal have a  
2 length of two symbol periods.

1        10. In a receiver of a spread spectrum communication system, circuitry for recovering  
2 transmitted symbols, comprising: sample circuitry, connected to input a received signal  
3 including multi-path components of at least one symbol, for sampling successive portions  
4 of the received signal; de-spreading circuitry, connected to receive the successive  
5 portions of the received signal and for outputting , wherein at least one multi-path of the  
6 transmitted symbol is contained in separate portions; determining a partial estimate of the  
7 transmitted symbol for the at least one multi-path component based on each part of the  
8 multi-path contained in each separate portion; and summing circuitry for summing said  
9 partial estimated to produce a full estimate.

1        11. The circuitry of claim 10 further including a memory for storing the partial  
2 estimates, wherein at the end of each successive portion of the received signal any partial  
3 estimates are stored in said memory.

1        12. The circuitry of claim 11 further including a symbol memory, wherein each full  
2 estimate is stored in the symbol memory.

1        13. The circuitry of any claim 12 wherein the sample circuitry includes a sample  
2 memory, wherein the successive portions of the received signal are stored in the sample  
3 memory.

1        14. The circuitry of claim 13, further including timing error detection and estimation  
2 circuitry for determining an error in the timing position of the received signal, wherein  
3 the timing position of the received signal is adjusted responsive to said error prior to de-  
4 spreading.